

Amendment to the Drawings

Please substitute the originally filed sheet of Drawing showing Fig. 1 with the Replacement Sheet filed herewith showing amended Fig. 1. Reference numerals 1a and 5a have been added to the Figure.

Remarks

The above identified application has been carefully reviewed and amended in light of the Examiner's office action mailed on August 2, 2007. A two month extension of time to respond to the office action is hereby requested, and the requisite fee is enclosed, thereby extending the deadline for response to January 2, 2007.

The Specification has been amended on pages 11 and 12 to clarify certain paragraphs of the Detailed Description.

Figure 1 has been amended by adding additional reference numerals thereto. A Replacement Sheet showing the amended Figure 1 is filed herewith.

Claims 36-39 have been cancelled as being drawn to a non-elected invention.

Without conceding the correctness of any of the Examiner's objections and rejections, applicant has amended claims 31, 32, 33, 34 and 35 to clarify the invention and to facilitate the prosecution and allowance of the above-identified application.

New claims 41-48 have been added.

Applicant expressly reserves the right to seek patent protection for the original claims and for any other claims that are supported by the present specification in one or more later-filed related applications.

Applicant appreciates the Examiner's recognition of allowable subject matter in claims 35 and 40. Accordingly, amended claim 40 defines the subject matter of previously presented dependent claim 40 in independent form. New claim 41 defines the subject matter of previously presented dependent claim 35 in independent form. Applicant submits that claims 40 and 41 now define subject matter recognized by the Examiner to be patentable and respectfully requests allowance thereof.

The Examiner has objected to the Drawings under 37 CFR 1.83(a) as allegedly not showing the cylinder cross-section and the ignition means being positioned close or adjacent to the flat surface of the cylinder (that is, the generating device) as claimed in previously presented claim 34.

In response, Figure 1 has been amended to identify the "flat surface 1a" of the generating device and to identify the "ignition means 5a" being positioned close or adjacent to the flat surface 1a of the generating device. Appropriate amendment to the specification has been made to include the new reference numerals 1a and 5a and to clarify these aspects of the invention that are clearly disclosed elsewhere in the application as originally filed. For example, on page 7 of the specification, the generating device, e.g. candle (identified by numeral 1 in the detailed description) is described as being a "cylinder of a section other than circular, and advantageously has a cross section in the form of a major segment of a circle. *The ignition means is then advantageously positioned close or adjacent to the flat surface (chord) of the cylinder so*

that in operation the spark is directed at *a flat surface* of the candle." [Italics added for emphasis].

In view of the above, applicant submits that the amendment to the Drawings shown in the Replacement Sheet filed herewith, and the amendment to the specification on pages 11 and 12, overcome the Examiner's objection under 37 CFR 1.83(a) and applicant respectfully requests this objection be withdrawn.

Claims 31 and 33 have been rejected under 35 U.S.C. 102(b) as being anticipated by Waldeck. Applicant traverses this rejection as it pertains to the claims as amended.

Amended claim 31 is directed to a chemical oxygen generator comprising a generating device for producing oxygen by chemical reaction. The generating device has an ignition region. The generator further comprises a friction-induced spark generating ignition device comprising a friction member and flint, and an abrader structured and positioned to be effective in abrading a surface of the ignition region to facilitate ignition of the ignition region. Amended claim 31 now includes the limitations of original dependent claim 33.

Waldeck discloses a gas generator fire alarm using a combustible fuel for generating gas for operation of a whistle noisemaker.

Waldeck does not disclose, teach or suggest the present invention. For example, Waldeck does not disclose, teach or even suggest a chemical oxygen generator.

Moreover, Waldeck does not disclose, teach or even suggest a chemical oxygen generator comprising a generating device having an ignition region, and a friction-induced spark generating ignition device comprising a friction member and flint, as recited in amended claim 31.

In view of the above, applicant submits that the present claims, particularly amended independent claim 31, are not anticipated by and are novel over Waldeck under 35 U.S.C. 102(b).

In addition, applicant submits that Waldeck does not make obvious the present invention under 35 U.S.C. 103(a). As mentioned above, Waldeck does not deal with chemical oxygen generators, and the technical challenges faced by the inventors of the presently claimed chemical oxygen generators are quite different from those faced by Waldeck.

For example, Waldeck's fire alarm does not generate oxygen gas. Waldeck's fire alarm burns a fuel in air to produce a stream of gas. The fuel is initially protected by a plug of highly flammable phosphorous material (col. 3 lines 28-31). This ignitable plug is protected by a covering of wax. In operation, Waldeck's device uses a striker member which removes the protective wax and then strikes and causes ignition of the ignitable plug, much like striking a match, which in turn lights the fuel. Rather than generating oxygen, Waldeck's fire alarm actually consumes oxygen, thus actually teaches away from the oxygen generator of the present invention.

The Examiner appears to have equated Waldeck's striker member with the abrader of the present invention.

Applicant submits that Waldeck does not teach or even suggest the abrader of the presently claimed invention. The function of the abrader in the present invention as recited in amended claim 31, is described, for example, on page 7 of the specification, which states: "Advantageously, there are provided...means for abrading the [ignition region]...Such abrasion ensures that any surface changes that might take place during storage do not result in inhibition of ignition *and, more importantly, that loosened material, for example in the form of small particles, e.g. dust, is available for ignition by the spark.*" [Italics added for emphasis].

In contrast with the friction-induced spark generating ignition device of the presently claimed generator, Waldeck's ignitable plug is not ignited with a spark generated by a friction member and flint, but is ignited much like a match is ignited, in that the striking of the plug produces enough heat to start a chemical reaction of the highly flammable phosphorous material which makes up the plug. Waldeck has no difficulty igniting the plug once the protective wax coating is removed and does not require a friction induced spark for ignition. The highly specialized compositions used in chemical oxygen generators, such as the chemical oxygen generators of the present invention, are in comparison relatively difficult to ignite. The friction-induced spark generating ignition device of the generators claimed for example in amended claim 31, includes a friction member and flint. Nothing in Waldeck even suggests an ignition device comprising a friction member and flint, as recited in claim 31. The abrader facilitates ignition by abrading the surface of the ignition region, which may generate ignitable particles,

for example, ignitable dust, at the surface of the ignition region, for example, as recited in dependent claim 32.

In view of the above, applicant submits that the present invention recited in amended claim 31 is not obvious in view of, and is patentable over, Waldeck under 35 U.S.C. 103(a).

The Examiner has rejected claim 31 under 35 U.S.C. 102(b) as being anticipated by Nishii. Applicant traverses this rejection as it pertains to amended claim 31.

Nishii does not disclose, teach or suggest the present invention. For example, Nishii does not disclose, teach or even suggest a chemical oxygen generator comprising a friction-induced spark generating ignition device including a friction member and flint, and an abrader structured and positioned to be effective in abrading a surface of the ignition region to facilitate ignition of the ignition region, as recited in the present claims.

Nishii discloses an oxygen generator in which a hammer strikes a primer to generate a spark. As recognized by the Examiner in the first full paragraph on page 7 of the Office Action, Nishii fails to disclose a generator including an ignition device including an abrader.

Applicant submits therefore that the present invention in amended claim 31 is not anticipated by and is novel over Nishii under 35 U.S.C. 102(b).

The Examiner has rejected claims 32, 33 and 34 under 35 USC 103(a) as being unpatentable over Nishii in view of

Endelson. Applicant traverses this rejection as it pertains to the presently amended claims.

Nishii is discussed elsewhere herein. Applicant submits that Endelson does not provide the deficiencies present in Nishii so as to make obvious the present invention. For example, Nishii does not disclose, teach or even suggest a friction-induced spark generating ignition device comprising an abrader

Endelson discloses a liquid gas-fuelled cigarette lighter which uses a friction wheel and a flint to generate a spark to ignite the liquid fuel. It is acknowledged that at the date of the invention, such friction wheel and flint devices were known for lighting conventional liquid fuel of the sort found in a cigarette lighter. However, applicant submits that it is only through hindsight that one would attempt to ignite the materials used in chemical oxygen generators, which are solid (see, for example, amended dependent claim 33), using an ignition device comprising a friction member and flint.

As mentioned elsewhere herein, the materials used in the present oxygen generators do not consume oxygen (as do the liquid fuels in the Endelson device), and are extremely difficult to ignite. Once ignited, the solid oxygen generating devices of the present invention burn at extremely high temperatures. The Examiner appears to have equated the flint abraded by a thumb wheel (col. 1 lines 24-25 of Endelson) to the abrader of the present invention, but this is not correct. In the present invention, a surface of the ignition region of the generating device is abraded by the abrader. The surface of the ignition

region, i.e. a surface of the burnable material of the oxygen generator, is abraded to produce dust particles of the burnable material which helps to ignite the main body of the burnable material. This is described, for example, on page 7 of the specification as filed.

Endelson does not disclose, teach or even suggest an abrader structured and positioned to be effective in abrading a surface of an ignition region to facilitate ignition of the ignition region, as recited in amended claim 31.

Indeed, such an abrader could have no possible function in the cigarette lighter of Endelson, where the fuel is not a solid, but is a liquid, and thus cannot be "abraded", as it is in the generating device of the present invention.

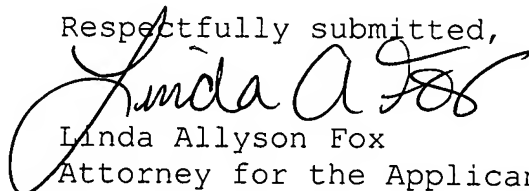
Returning to Nishii, Nishii, like Endelson, provides no incentive to abrade a surface, neither does it suggest any reason why abrasion would be necessary or even desirable. If one of ordinary skill in the art were to replace the ignition means of Nishii, i.e., a hammer striking a primer to generate a spark, with the flint and wheel of Endelson (and nothing in Endelson suggests any particular reason why he would want to do so), the combination would still not make obvious the present invention as claimed in amended claim 31. Neither of Nishii nor Endelson discloses, teaches or even suggests an ignition device including a friction-induced spark generating ignition device comprising a friction member and flint and an abrader structured and positioned to be effective in abrading a surface of an ignition region to facilitate ignition of the ignition region.

In view of the above, applicant submits that the present invention defined in amended claim 31 is not obvious in view of, and is patentable over, Nishii and Endelson, alone and in combination, under 35 U.S.C. 103(a).

In addition, applicant submits that each of the present dependent claims is separately patentable over the prior art. For example, the prior art does not disclose, teach or suggest the present apparatus and systems including the addition feature or features recited in any of the present dependent claims. Therefore, applicant submits that each of the present claims is separately patentable over the prior art.

In conclusion, applicant has shown that the objection to the Drawings under 37 CFR 1.83(a) has been overcome and that the present claims, that is, claims 31, 32, 33, 34, 35, 40-48 are not anticipated by, and are unobvious from and patentable over the prior art under 35 U.S.C. 102(b) and 35 U.S.C. 103(a). Therefore, applicant respectfully requests the Examiner to pass the above-identified application to issuance at an early date. Should any matters remain unresolved, the Examiner is requested to call applicant's attorney at the telephone number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Linda A. Fox", is written over the typed name and title.

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